



G A O

Accountability \* Integrity \* Reliability

United States General Accounting Office  
Washington, DC 20548

October 27, 2000

The Honorable Henry J. Hyde  
Chairman, Committee on the Judiciary  
House of Representatives

Subject: Federally Chartered Corporation: Review of the Financial Statement  
Audit Report for the Navy Club of the United States of America for  
Fiscal Year 1998

Dear Mr. Chairman:

As requested, we reviewed the audit report covering the financial statements of the Navy Club of the United States of America, a federally chartered corporation, for the fiscal year ended July 31, 1998. The main purpose of the corporation is to further, encourage, promote, and maintain comradeship among those persons who are or have been in active service of the United States Navy, the United States Marine Corps, or the United States Coast Guard.

Federally chartered corporations are required under 36 U.S.C. 10101 to

- present the corporation's assets and liabilities and reasonable detail on the corporation's income and expenses in annual financial statements,
- obtain an annual financial audit by an independent public accountant, and
- submit the auditors' report and the corporation's financial statements to the Congress.

The objective of our review was to determine whether the audit report complied with the financial reporting requirements of the law. In carrying out our work, we reviewed the corporation's financial statements and the accompanying notes, performed certain analytical procedures related to information presented in the financial statements, reviewed the auditors' report, and made inquiries to corporation officials or the auditor as we deemed necessary. We did not review the auditors' working papers. Our review disclosed no reportable instances of noncompliance.

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GAO-01-142R Navy Club of the United States of America

**DTIC QUALITY INSPECTED 4**

The audit report included the auditors' opinion that the financial statements are fairly presented. We are returning the audit report you sent with your letter.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Jeffrey C. Steinhoff". The signature is fluid and cursive, with the first name "Jeffrey" being more prominent and the last name "Steinhoff" following in a similar style.

Jeffrey C. Steinhoff  
Managing Director  
Financial Management and Assurance

w/o Enclosure

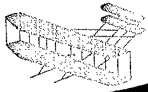
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**Air Force**

# SBIR Advantage

Offering a brief look at the vital research and development contributions made by the Small Business Innovation Research (SBIR) Program in direct support of the Air Force mission.

4th  
Quarter  
2000



## Air Force SBIR Update



## SBIR and STTR

### The Similarities and Differences

by Steve Guilfoos



**Stephen Guilfoos**  
Air Force SBIR  
Program Manager

Most of us are very familiar with the various facets of the Small Business Innovation Research (SBIR) program. You may not be as familiar with a sister program called the Small Business Technology Transfer Program (STTR). The STTR program is a pilot program, mandated in Public law

102-564, that awards R&D contracts to small businesses for cooperative research and development conducted jointly by a small business and a research institution. STTR, although modeled substantially on the SBIR program is a separate program and is separately funded. These programs authorized separately by Congress have many similarities, but also many specific differences.

### Similarities

Both programs are intended for small businesses to conduct research on behalf of the federal sponsoring agencies. Both have the two phase contract awards. Both have a formal solicitation held jointly with other DOD components. Both have similar proposal evaluation processes and criteria. Both have the ultimate goal of providing technologies for commercialization to the military and civilian sectors.

### Differences

Some of the differences include the amount of award for a STTR Phase II. It is capped at \$500,000 as compared to \$750,000 for SBIR. The SBIR solicitation is in the fall of each year, while STTR is in the spring. The SBIR budget is set at 2.5% of the Air Force's extramural research and development budget while STTR is at .15%.

One major difference is the requirement for a STTR to be partnered with a research institution. At least 40% and not more than 60% of the work must be performed

Continued on page 4...

## SBIR Tech Issues

*Tech Issues* is intended for personnel directly involved in the operation and support of the AF SBIR program.

# SBIR Topic Suggestion Module

In a 2 Feb 1999 letter to Congress, Dr. Jacques Gansler, Under Secretary of Defense for Acquisition and Technology, agreed to facilitate the transition into DOD acquisition programs of technology developed under the SBIR program.

### Improved Process to Better Answer Tech Needs

The Air Force SBIR Program Management Team subsequently initiated an enhancement to its topic generation process that will more closely tie SBIR topics to PEO/DAC technology needs.

The Air Force SBIR Program developed a topic suggestion module that:

1. Provides an on-line capability for PEO/DAC topic sponsors to enter their topics,
2. Provides visibility to all topics under generation thereby reducing duplication of topics,

3. Permits on-line editing by both the sponsor POC and the AFRL technical POC, and
4. Provides for a direct transfer of information into the SBIR active topic database.

### Password Protected

This module is password protected and only the authorized PEO/DAC topic sponsor and AFRL technical POC can edit their own topic files. However, all Air Force members have read access and can add comments to these files on a "dot mil" server. The module generates an automatic e-mail to the POCs whenever someone has

edited the topic file. The module provides capability to register the topic status as "in-process" until both POCs agree that the topic authoring is completed.

### Saves Time—Avoids Duplication

This module is aimed at significantly reducing the time and effort required in generating PEO/DAC topics as well as reducing

the possibility of duplicate topics. But mostly, this module will help both the sponsor and technical POCs work together to generate high quality topics. In turn these high quality topics will provide the technologies that are ready for transition by the PEO/DACs.

## SBIR Facts & Figures

### SBIR FY00 Budget/Award Update

(As of 25 September 2000)

	Location	Budget	(00 \$) # of Topics	2000 Ph. I Proposals Recd.	SY 2000 Ph. I Awards	SY 1999 Ph. I Awards
	AFRL/DE	\$14,486,000	21	170	31	16
	AFRL/VS	\$29,136,000	40	378	58	28
	AFRL/HE	\$16,010,000	24	216	34	14
	AFRL/IF	\$21,140,000	28	267	39	22
	AFRL/ML	\$20,365,000	28	288	42	14
	AFRL/MN	\$13,142,000	17	154	23	15
	AFRL/PR	\$18,707,000	36	403	49	18
	AFRL/SN	\$17,030,000	28	195	40	11
	AFRL/VA	\$9,641,000	18	173	25	8
	ALCs/TCs	\$24,155,000	18	144	30	28
<b>TOTALS</b>	<b>\$183,812,000</b>	<b>258</b>	<b>2,385</b>	<b>369</b>	<b>173</b>	

# Variable Autonomy Control System for UAVs

## Air Force Requirement

The Air Force Research Laboratory was searching for new Unmanned Aerial Vehicle (UAV) control systems technology that greatly simplified the manual control of UAVs and eliminated the requirement for highly trained, rated Air Force pilots to operate the UAV systems. The Air Force was also looking for a solution that significantly reduced the UAV operator workload and training requirements, thus significantly reducing the training and logistics costs associated with the operation of UAVs.

## SBIR Technology

Geneva Aerospace is currently in Phase II of an Air Force Small Business Innovation Research Program (SBIR). In this project, Geneva is developing a system that greatly simplifies the control of Unmanned Aerial Vehicles

(UAVs) for remote operators. With this new UAV control technology, unskilled operators with no piloting or aviation experience can fully control an unmanned aerial vehicle.

## Payoff

Geneva developed the underlying control technology that will facilitate the emergence of new UAV systems that are easier to fly than automobiles are to drive. This control simplicity enables a larger community of military operators, beyond the small group of highly trained aviators, to control UAVs, while at the same time allowing a single operator to manage multiple UAVs at one time.

## Technology Transfer/ Commercialization

Geneva has begun commercializing its product, integrating its new UAV Control technology into several Air Force, Army, and Navy research and

development programs with the added possibilities for widespread commercial applications.

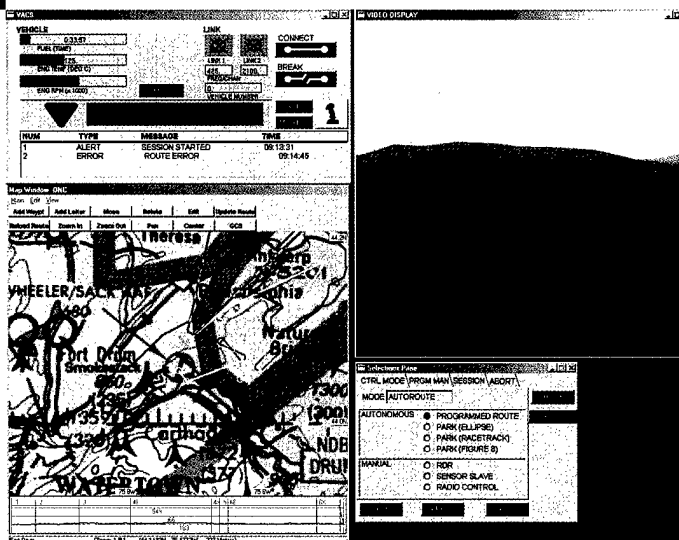
Geneva Aerospace and their government customers believe that this technology can be the catalyst that drives the use of UAVs for commercial applications such as border patrol, farming applications, search and rescue, pipeline and power-line inspection, motion picture filming, and many more.

## SBIR Partner:

Geneva Aerospace, Inc.,  
Dallas, TX

## Employees:

6



**"In the future, the use of unmanned air vehicles (UAVs) will expand to new roles beyond reconnaissance and surveillance, into real-time targeting and even weapon delivery. This technology will make the control of UAVs flexible and responsive in real-time, without requiring expensive and scarce piloting skills, meeting the needs of the warfighters."**

Andrew Probert  
SBIR Project Officer  
AFRL/VAAI

## Air Force SBIR Update

Continued from front page...

### SBIR and STTR—The Similarities and Differences

Item	SBIR	STTR
Funding	2.5%	0.15%
Budget	\$185M in FY 2000	\$11M in FY 2000
Solicitation	Closes early January	Closes early April
Phase I	9 months, \$100,000	9 months, \$100,000
Phase II	24 months, \$750,000	24 months, \$500,000
Outside partners	Not required but allowed	Required, 40 to 60% with research institution
Research focus	Exploratory and Advanced Development (Program Elements 6.2 and 6.3)	Basic research (Program Element 6.1)

by a research institution who has partnered with the small business. This allows for the federal agencies to plus upon unique research work carried on at our research institutions and universities. Of the 73 Phase II STTRs completed in the last three years, 69 small businesses have partnered with 53 research institutions.

However, the most significant difference is the focus in the maturity of the research. The Air Force uses STTR specifically for "basic research". SBIR focuses on the more mature "exploratory research" and "advanced development". Within the Air Force Research Laboratory, the Air Force Office of Scientific Research (AFOSR) focuses solely on "basic research". "Basic

Research" is defined as pursuit of greater knowledge or understanding of the fundamental aspects of phenomena of observable facts. As such, I have assigned program execution to the AFOSR.

AFOSR manages the Air Force's entire basic research investment. Its technical experts sponsor and direct basic research conducted in the nation's research institutions, U.S. industry, and other government agencies. Using a carefully balanced research portfolio, its research managers create new technology and advance current knowledge, then quickly transition research accomplishments for further development.

### Summary

Because of the program similarities, the Air Force is able to administer the STTR program using the same management processes as SBIR. This helps keep our administrative overhead costs down. Because of the differences, we've chosen to manage the program out of the AFOSR. This allows the Air Force to leverage the strengths of both SBIR and STTR while keeping the distinct research focus for both programs.

I believe that STTR fills a valuable niche in our research portfolio and provides a needed tool for our research planners. The Air Force has benefited greatly from STTR and we will continue to use this program to our best advantage.

## STTR Reauthorization in FY01

Because the STTR program is up for reauthorization in FY 2001, Congress requested the GAO look into the STTR program. In a letter dated 27 July 2000 to the Secretary of Defense, the GAO intends to address (1) What are the advantages or drawbacks of maintaining two separate but similar programs? (2) What are the nature and accomplishments of the partnerships between small businesses and the research institutions that are central to the STTR program? (3) Has there been a change in the number of STTR proposals and, if so, what is its significance?



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The goal of the Air Force SBIR Program is to serve the technology needs of Air Force warfighters. It accomplishes its mission as part of the Air Force Research Laboratory's (AFRL) integrated research and development (R&D) team. AFRL's mission is to lead the discovery, development, and timely transition of affordable, integrated technologies that keep our Air Force the best in the world.

*SBIR Advantage* is published quarterly by the Air Force SBIR Program office. This publication offers an overview of AF SBIR issues and information. The purpose of *SBIR Advantage* is to provide Air Force, DoD, and other government leadership with additional insight into the vital contributions made by the SBIR program to Air Force R&D.

*SBIR Advantage* is available online at:  
[www.afrl.af.mil/sbir/index.htm](http://www.afrl.af.mil/sbir/index.htm)

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# Demographics and the Changing National Security Environment

Demographic factors seldom directly cause conflict between nations. They can, however, exacerbate existing tensions and increase the risk of violent conflict. Long-term fertility trends, urbanization, migration, and changes in the ethnic composition and age profile of populations can influence the likelihood and nature of conflict among and within nations.

Brian Nichiporuk explores these issues in *The Security Dynamics of Demographic Factors*, seeking to answer three questions in particular. First, which demographic trends pose international security concerns? Second, what are the security implications of these trends? Third, what should the United States do in response to these issues? The future international security environment, of course, will be determined by complex interactions between geographical alignments, technological advances, economic developments, environmental trends, and demographic factors. This research does not address all these complex interactions, but it does note the directions in which demographic factors can affect security issues.

## CURRENT DEMOGRAPHIC TRENDS

World population growth continues at a significant, albeit slowing, rate. Recent middle-range estimates indicate that global population could increase from 6 billion now to 7.3 billion in 2025 and 9.4 billion in 2050. Nearly all this growth will take place in the developing world.

Contributing to this growth are varying trends in fertility. States may be grouped roughly into one of three categories defined by economic development and fertility rates: developing states with continuing high fertility rates, developing states with declining fertility rates but continuing population growth, and developed states with fertility rates at or below those needed for population replacement. Urbanization continues apace in all types of states.

Two distinct types of fertility patterns currently contribute to population growth in the developing world. Some developing states, such as Nigeria (6.5 lifetime births per woman) and the Democratic Republic of the Congo (6.6 lifetime births per woman), continue to have high fertility rates. Such nations will continue to grow for at least two more generations. Other developing states, such as Brazil (2.5 total fertility rate), Mexico (3.1), Egypt (3.6), China (1.8), India (3.4), and Indonesia (2.7) have reduced their fertility rates but will continue to see population growth for at least another generation because of population momentum. Previously high fertility rates in these states have skewed the current population toward age cohorts in their childbearing years (see Figure 1 for a comparison of population age structures in developing and developed nations).

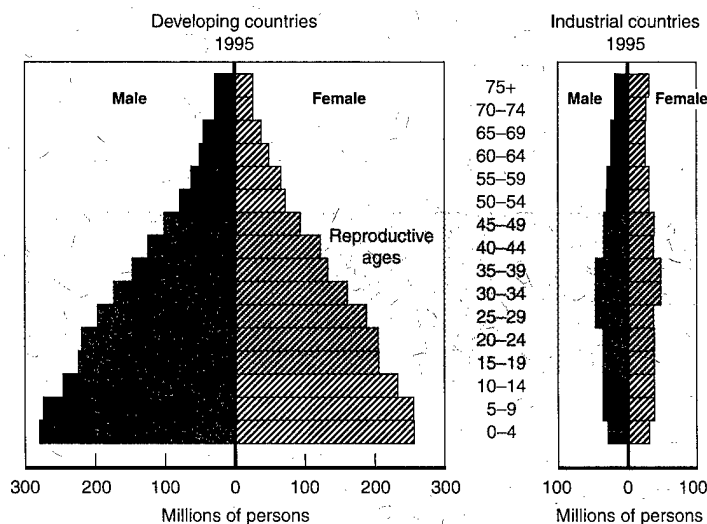


Figure 1—Developing Countries Have Younger Populations Than Do Developed Countries

Developed nations in Europe and East Asia face different challenges, those associated with low fertility rates,

aging populations, and static population growth or decline. Most NATO allies of the United States have very low or negative population growth. Italy and Spain have some of the lowest fertility rates in the world, 1.2 lifetime births per woman. Germany is now experiencing negative population growth of -0.1 percent annually. Britain and France are experiencing very low growth, and Russia faces long-term population decline. In East Asia, Japan and Singapore face low growth. The United States is experiencing low growth rates, but not as low as those for some other developed countries because of a somewhat higher fertility rate and larger immigration flows.

While urbanization continues throughout the world (see Figure 2 on world urbanization trends), its security implications are probably greatest in developing states. High population growth in agricultural areas, subsequent soil depletion and deforestation, declining agricultural commodity prices, and perceptions that cities offer better economic opportunities have convinced more and more persons in rural areas to migrate to urban ones. One-half of the world population is now urban, compared to only 17 percent in 1950. By 2015 in the developing world, there will be 23 "megacities" with populations of at least 10 million residents.

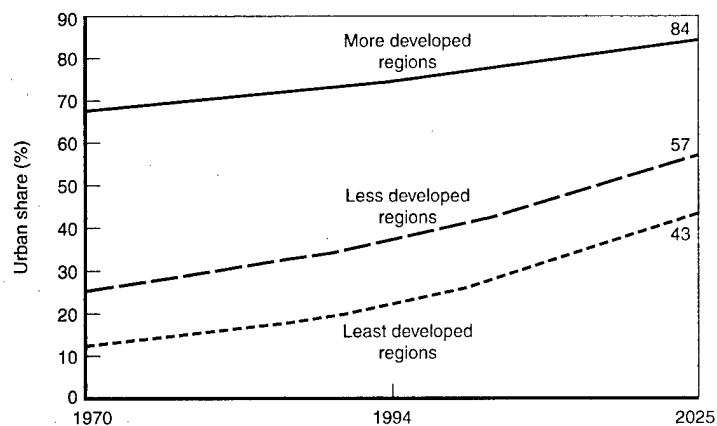


Figure 2—Urbanization Is Proceeding Rapidly in the Developing World

## SECURITY IMPLICATIONS OF DEMOGRAPHIC TRENDS

Demographic trends have three kinds of security implications. First, they can lead to changes in the nature of conflict. Second, they can affect the nature of national power. Third, they may influence the sources of future conflict.

*Changes in the nature of conflict.* Changes in the nature of future conflicts are likely to follow from increasing urbanization, the spread of immigrant communities, and demographic pressures on renewable resources, such as water, as well as from independent changes in military

strategy and technology. Future high-intensity conflict is more likely to take place in urban areas. This presents a particular challenge to the conventional warfare capability and doctrine of U.S. ground forces. The technological advantages that the United States enjoys in long-range precision weaponry might be reduced by the unique characteristics of urban warfare, including restrictions on movement and line of sight and the presence of civilians.

Urban areas are also more likely to be the site of future low-intensity conflict, particularly as they become even more important economic, political, and social centers. The rings of poor shantytowns that surround many Third World cities may be fertile recruiting grounds for radicals and revolutionaries fighting existing regimes.

Recent advances in transportation and communication have made intercontinental migration easier. This has increased the size, visibility, and impact of ethnic diasporas, especially in Western Europe. Within ethnic diasporas, activist groups can become a strategic asset for their home nations and territories. In extreme cases, rival diasporas might engage in violent conflict in their host countries to advance the causes of their home states.

Population pressures increase the likelihood that water rights will be a source of future conflict and make control of freshwater a more powerful instrument of coercion. This is particularly true in arid regions, where many developing countries are experiencing high population growth. Such nations are vulnerable to threats to their water supply during conflict, especially if much of their water comes from external sources.

Turkish control of the flow of Euphrates River water, for example, may become an instrument of coercion. The Grand Anatolia Project to build dams for hydroelectric power in Turkey will restrict the flow of Euphrates water to Syria by 40 percent and to Iraq by 80 percent. Completion of the project will also give Turkey the ability to cut off Syria and Iraq from all Euphrates water. Such power will loom large in any future conflicts between Turkey and Syria or Iraq over the political status of the Kurds.

*Changing sources of national power.* Demographic factors will compel both low-growth and high-growth states to develop different sources of national power.

Some low-growth states seek to base their military power more on capital and training and less on sheer manpower. Some states of Western Europe, for example, are moving away from large conscript armies designed for territorial defense and toward smaller professional forces tailored for expeditionary operations on the European periphery. Declining personnel levels free funds for the procurement of new and advanced weapon systems,



whose operation requires a greater investment in each member of the military (e.g., for training and retention). Increasing weapon system costs will lead low-growth states to seek partnerships for sharing procurement costs to continue modernizing their militaries. Low-growth states that cannot otherwise afford to adopt a capital-intensive approach to warfare, such as Russia, may choose to rely more on weapons of mass destruction in their national security policies.

High-growth states, by contrast, may base more of their military strength on manpower. Many states with multiethnic populations see military conscription as a means to instill a common identity into the populace. Some need large numbers of military personnel to preserve order and protect against insurrection. Many developing states, to maintain their capabilities to prevail in conventional warfare against their neighbors, split their forces between elite units and low-quality infantry units. An example of this is the division of the Iraqi military into Republican Guard and regular army units.

Many other variables, such as geography, wealth, alliances, and threats and strategies to counter them, also contribute to differences in military forces used by different nations. Nevertheless, when all else is equal, differing population growth rates can lead to differing military force levels and mixes.

*Changing sources of conflict.* Demographic factors can cause conflicts. Massive population migrations, for example, contribute to instability in both home and host countries. The home country faces the risk that those departing will use the host nation to undermine the home state, while the host nation faces challenges ranging from an overburdened infrastructure to growing ethnic imbalances.

In some states, particularly those with a large number of unemployed young adults, high growth rates can lead to revolutionary movements. This is most clearly evident in the development of the Islamic Salvation Front in Algeria, which has a rapidly growing youth population and high structural unemployment. Successful revolutions in turn often lead to armed conflict, arising either from efforts by the revolutionary state to spread the revolution to adjacent states or because neighbors perceive the revolutionary state to be a threat.

Finally, demographic factors can lead to conflict in ethnically mixed states. This is particularly true in areas where ethnic groups are integrated rather than segregated into well-defined areas, where one or more of the groups have a nationalist history, where the groups have different growth rates, and where the central government is rela-

tively weak. Bosnia in the early 1990s, as the Yugoslav central government was weakening, is an example of an ethnic conflict in which demographic factors played a role. Between 1961 and 1991, the Serbian percentage of the population in Bosnia declined from 43 percent to 31 percent, while the Muslim percentage of the population increased from 26 percent to 44 percent. This population shift accompanied the waning of Serbian dominance, and the increasing influence of Bosnian Muslims, in Bosnian politics.

## IMPLICATIONS FOR U.S. POLICY

How should the United States respond to demographic issues affecting its security interests? Nichiporuk writes that a combination of research and analysis, development assistance, and focused military preparedness can help the United States protect its strategic interests in the face of demographic challenges.

First, the U.S. intelligence community could improve its long-run strategic position by paying more attention to demographic indicators and warning measures. It could place more emphasis on understanding how demographic pressures can constrain the actions of allies, increase frictions between regional powers, and spur ethnic conflict.

Second, the United States could target foreign aid more precisely to help achieve foreign policy objectives. Targeting foreign aid can enable the United States to help developing nations better manage the effects of rapid population growth, allowing them to conserve resources and to undertake political reform. In some circumstances, U.S. foreign aid could help developing states reduce fertility rates outright. Recent RAND research, for example, has shown that a number of women in developing countries have an interest in reducing their fertility rates and that American aid to international family planning programs has been a cost-effective way to help them do so.<sup>1</sup>

Finally, the increasing urbanization of the world population calls, as many U.S. military leaders recognize, for new tactics, training, and technologies for urban warfare. In the short term, U.S. forces can gain the greatest improvement here through training. Over the long term, the United States will need new technologies so that its ground troops can operate more effectively in urban areas. These should include more-advanced unmanned aerial surveillance platforms, better personnel protection gear, and improved nonlethal weapons.

<sup>1</sup>See Rodolfo A. Bulatao, *The Value of Family Planning Programs in Developing Countries* (MR-978-WFHF/RF/UNFPA).

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*RAND research briefs summarize research that has been more fully documented elsewhere. This research brief describes work done for the Population Matters project of the RAND Labor and Population Program and for the RAND Arroyo Center and documented by Brian Nichiporuk, The Security Dynamics of Demographic Factors, MR-1088-WFHF/RF/DLPF/A, 2000, 76 pp., ISBN: 0-8330-2780-8. Population Matters is sponsored by the William and Flora Hewlett Foundation, the Rockefeller Foundation, and the David and Lucile Packard Foundation. Population Matters project publications and other project information are available at <http://www.rand.org/popmatters>. All RAND publications are available from RAND Distribution Services, P.O. Box 2138, Santa Monica, CA 90407-2138 (Telephone: 310-451-7002; FAX: 310-451-6915; or Internet: [order@rand.org](mailto:order@rand.org)). Abstracts of all RAND documents are available for review on the World Wide Web (<http://www.rand.org>). RAND publications are distributed to the trade by National Book Network. RAND® is a registered trademark. RAND is a nonprofit institution that helps improve policy and decisionmaking through research and analysis. RAND's publications do not necessarily reflect the opinions or policies of its research sponsors.*

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